

laminated stack 2 is formed in a plurality of triangular-shaped profiles in an axial direction of the rotor shaft, and is formed in a plurality of rectangular-shaped profiles on each electromagnetic sheet plate that are located at circumferentially spaced locations (in detail as shown in FIG. 6). The presence of the caulked portions each formed in the triangular profile in the axial direction of the rotor shaft and the rectangular profile on each electromagnetic sheet plate renders the fabrication step to be easily implemented while ensuring a sufficient rigidity. Preferably, the rectangular profile may be designed to have a dimensional range composed of first and second dimensional elements such as a height or width (1_1 or 1_2 as shown in FIG 6) of more than 1 mm and the width or the height (1_1 or 1_2 as shown in FIG 6) of more than 2 mm. With such a dimensional range of the rectangular profile, the annular laminated stack 2 may be caulked without causing an increased number of caulking portions while preventing an imbalance in shape of the annular laminated stack 2 and ensuring the strength at the caulked portions. Each of the caulked portions may be preferably designed in the dimensional range to have the dimensional elements such as the height of approximately one to two times 1 the thickness of each steel plate in an axial direction of the rotor shaft. With such a dimensional range of each of the caulked portions, likewise, the annular laminated stack 2 may be caulked without causing the increased number of caulking portions while preventing the imbalance in shape of the annular laminated stack 2 and ensuring the strength at the caulked portions.

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Further, the caulked portions may be suitable located in a circumferential area distanced from an inner circumferential periphery of each electromagnetic steel sheet by 7 to 30 % ($(1/L) \times 100 \geq 30$, in detail as shown in FIG. 4) a radial length of each electromagnetic steel sheet relative to an outer circumferential periphery thereof. By forming the caulked portions in such a

circumferential area, the strength, provided by the caulked portions, of the electromagnetic steel sheet can be increased to minimize a deformation of the rotor, for thereby improving the operating performance of the motor. When forming the caulked portions outside the circumferential area in a range greater than 30 %, the operating performance of the motor is adversely affected and, when forming the caulked portions inside the circumferential area in a range below 7 %, the strength, provided by the caulked portions of the electromagnetic steel sheet tends to have a decreased value. In FIG. 6, further, although each of the caulked portions has been shown as an elongated shape in a circumferential direction, each caulked portion may extend in the elongated shape in the radial direction of the electromagnetic steel sheet or the electromagnetic steel sheet may have caulked portions extending in mixed orientations.

IN THE CLAIMS:

Please amend claims 1, 7, 8 and 10 as follows:

1. A rotor structure for a permanent-magnet motor, comprising:
 - an annular laminated stack of electromagnetic steel sheets incorporating therein permanent magnets;
 - a pair of annular end plates between which the annular laminated stack is sandwiched;
 - a cylindrical core buck having its outer circumferential periphery carrying thereon the annular laminated stack and the annular end plates; and
 - a rotor shaft integrally connected to the cylindrical core buck to be rotatable therewith;
- wherein each outer end surface of the annular laminated stack has a plurality of first fixing portions formed in one of substantially triangular and trapezoidal-shapes, and an inner surface of each of the annular end plates has a plurality of second fixing portions formed in one of substantially triangular and trapezoidal-shapes; and